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The Northeast Utilities System

13040
orig FAX to Bob Scott
cc to PGM ✓
Jeff U.
Mike F.
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CAW
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FACSIMILE REQUEST

DATE: Jan 5. 2007

TO: Mr. Bob Scott - Director

DEPT.: NH DES ARD

LOCATION:

TELECOPIER PHONE #: 271-7053

NUMBER OF PAGES TO FOLLOW (INCLUDING COVERPAGE): 6

FROM: PSNH. Mr. Bill Smagula

DEPT.: Generation

LOCATION: Energy Park

TELECOPIER PHONE #:

CONFIRM RECEIPT TO:

PHONE#:

COMMENTS: A hard copy with enclosures will be forwarded via US mail.

Thank you.

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of New Hampshire

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The Northeast Utilities System

January 5, 2007

Mr. Robert R. Scott, Director
Air Resources Division
NH Dept. of Environmental Services
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Re: December 12, 2006 Meeting
Mercury Baseline Testing Plan

Dear Mr. Scott,

On December 12, 2006 representatives of Public Service Company of New Hampshire (PSNH) and NH Department of Environmental Services, Air Resources Division (DES ARD) met to review PSNH's Baseline Testing Plan. As discussed in a letter from Pam Monroe, Compliance Bureau Administrator, dated October 2, 2006, RSA 125-O has numerous requirements and aggressive deadlines. To better coordinate efforts to ensure compliance, meetings had been held and as required an initial submittal of PSNH's Baseline Testing Plan Proposal was provided. The referenced letter titled, Response to Baseline Testing Plan Proposal, also suggested a subsequent meeting with DES personnel and PSNH representatives. This December 12 meeting was held in response to that letter to discuss the plan and provide the additional information requested by Ms. Monroe. The meeting attendees were Elizabeth Tillotson, Laurel Brown and Harold Keyes of PSNH, and Pam Monroe, Jack Glenn, Jeff Underhill, Mike Fitzgerald and Craig Wright of DES ARD.

This letter confirms PSNH's Baseline Testing Plan consistent with the understanding reached during the December 12, 2006 meeting and includes PSNH's response to Ms. Monroe's letter as presented in this meeting, as well as copies of the documentation provided by PSNH during the meeting, are attached:

1. Comparison of Hg Emissions Calculated from Stack Test Results (Draft)
2. ASTM Method Reference List for Coal Sampling
3. Coal Hg Analytical Data for Schiller and Merrimack, 2003 – 2006
4. Identification of Traditional Coals and Test Blend Coals for MK1 and MK2
5. Summary of HB 1673 Requirements and Implementation Outline for Stack Testing and Fuel Sampling

Stack Testing

Method: As presented during the meeting and required by RSA 125-O:14, II, PSNH will conduct stack testing while burning coals traditionally used, excluding trial or test coal blends and without any mercury improvements running at the time of the tests.

Consistent with comments and preferences stated by DES ARD, PSNH has agreed to conduct Method 29, one of two methods preferred by DES ARD. Method 29, an EPA approved test method, is an established mercury test method for use by municipal waste combustors. However, it has not been used to measure mercury emissions previously at Merrimack or Schiller Stations and has limited use by coal-fired utilities. Although Method 29, is more complicated than the sorbent trap method, PSNH has agreed to conduct the required stack tests using Method 29.

In its Baseline Testing Plan dated August 30, 2006, PSNH proposed that the mercury stack tests would be completed using the sorbent trap method. The sorbent trap method was recommended for use in calculating baseline emissions by ADA-ES. This method has been used to measure mercury emissions previously at Merrimack Station and is widely used and accepted for use by coal-fired utilities. The sorbent trap method is less complicated than Method 29 and the Ontario Hydro Method (OHM), resulting in more accurate and repeatable results. However, DES ARD expressed concerns that the sorbent trap method is not yet an EPA approved method and recommended either OHM or Method 29. While the OHM provides speciated mercury data and has been conducted previously at Merrimack and Schiller Stations, this method is more complicated and expensive than other available test methods. The speciation of mercury emissions at Merrimack and Schiller Stations has previously been determined; therefore there is no longer a need for this type of testing. As documented by the previous OHM stack testing conducted at Merrimack Station, the accuracy of the OHM is suspect. This is evidenced by the comparison of mercury emissions calculated from stack tests conducted using OHM at Merrimack Station in 2002, 2003, 2004, and 2005. (See Item 1, above.) For these reasons, the OHM is not the best test method available for use by PSNH and PSNH has selected Method 29 rather than OHM.

Schedule: In addition to the ongoing discussion over which test method is appropriate for use, the schedule contained in PSNH's Baseline Testing Plan has been modified. PSNH is planning to conduct the first two stack tests at Merrimack Station in January and February, 2007, and the remaining two stack tests in the spring, one prior to and one after the MK2 maintenance outage. The stack testing at Schiller Station will also be conducted in the spring, such that all of the required stack testing will be completed as necessary to submit the final report no later than the December 8, 2007 statutory deadline. PSNH will provide a more definitive schedule to DES ARD when it becomes available. As indicated in the Baseline Testing Plan, PSNH will submit a stack test protocol and conduct pre-test meetings, as necessary, prior to the proposed testing.

Deadline: With regard to the deadline by which stack testing needs to be complete, PSNH believes that while the statute does not include a specific deadline for completion of testing, the deadline is established by the deadline for the submittal of the stack test report specified in RSA 125-O:14, III(a). DES ARD interprets the statute to require the stack tests be conducted during the 12 month coal sampling program; essentially resulting in a deadline of August 1, 2007. Despite the difference in interpretations of the statutory requirements, PSNH believes that the stack testing can be completed prior to August 1, 2007.

Coal Sampling

As required in RSA 125-O:4, PSNH is completing a fuel sampling and analysis program consisting of monthly representative samples of coals traditionally used. As reviewed during the meeting and proposed in its Baseline Testing Plan, to fulfill this statutory requirement, an analysis of the mercury, chlorine and sulfur content is conducted on each fuel shipment delivered to Merrimack and Schiller Stations. The analysis is conducted using ASTM methods D6722-01 (2006) and ASTM D3684-01 (2006). Analytical data for each shipment is provided to PSNH by all fuel suppliers.

As confirmed by Jack Glenn during the meeting, this approach is consistent with the fuel sampling and analysis program undertaken by PSNH to comply with the monthly fuel sampling requirements contained in RSA 125-O:4 (2002) which was previously approved by DES ARD. It is the most extensive, accurate, and consistent sampling approach available. The sampling of each shipment is conducted using appropriate ASTM methods established for the specific shipment type. (See Item 2, above) These documents identify sampling locations, sampling equipment, sampling frequency, etc. The sampling procedures are audited periodically for quality assurance. This approach is the only approach that maintains commercial accuracy and eliminates data gaps which occur during the months when trial or test coal blends are being burned.

This sampling and analysis approach prevents the potential bias of on-site intermittent sampling while allowing the on-going testing programs to continue. It is also the only approach that guarantees a monthly representative sample of coals traditionally burned during a twelve month period that includes the on-going, long-term Field Testing of Advanced Mercury Control Technology Research and Development Project at Merrimack Station.

This approach also results in a significant amount of historical data which can be used for comparison and validation purposes in the calculation of baseline mercury input. A sample of this historical data including coal mine, shipment date, percent sulfur, BTU/lb, and mercury content for each shipment received during 2003 through 2006 was provided and is enclosed. (See Item 3, above.)

In addition to the fuel analytical data for each shipment, PSNH's fuel sampling and analysis program will include at least four samples that correspond with the coal used when stack testing is conducted. Fuel sampling during stack testing is required during stack testing for quality assurance/quality control purposes. An on-site sample will be collected from the coal bunkering sampler and will provide data which, when compared to shipment data and CEM data, will be also used in the calculation of baseline mercury input.

Coals Traditionally Used

As stated in the Baseline Testing Plan, coals traditionally used include eastern bituminous and South American bituminous coals. As discussed in depth during the meeting,

Merrimack Unit 1 has traditionally used a 2/1/1 blend of 50% high sulfur coal, 25% Bailey (mid-sulfur), and 25% South American (low-sulfur) coal. Merrimack Unit 2 has traditionally used 100% Bailey; and Schiller has traditionally used South American (low-sulfur) bituminous coal. Though the Merrimack units were originally designed and burned higher sulfur coals, prior to the implementation of the NH Acid Rain Act requirements and the federal Title IV Acid Rain requirements, Merrimack Station's two units began burning lower sulfur test coals and blends. The station has traditionally used the 2/1/1 blend (as described above) and 100% Bailey on Merrimack Unit 1 and Merrimack Unit 2, respectively, since that time. The definition of "coals traditionally used" is identical and consistent with the coals traditionally used by PSNH since the implementation of state and federal SO2 emissions reductions requirements. Any other definition would create a large inconsistency in our test and operational records and would be inappropriate. These coals remain the standard traditional coals, while a number of test blends have been investigated in an effort to identify alternate lower sulfur coal blends that will successfully burn in the cyclone boilers, can be dependably procured and are economically feasible, to meet new lower sulfur emission requirements.

Trial or Test Coal Blends

Beginning in 2002, knowing that the passage of the NH Clean Power Act was in place and lower sulfur emissions were needed, Merrimack Station initiated an aggressive test program to identify lower cost compliance options for the SO2 emissions cap that would become effective beginning in 2007. This test program, and its goal to find acceptable alternatives to the traditional coals, was critical given the volatility of the SO2 allowance market and the quantity of emissions reductions anticipated by the NH Clean Power Act. Since 2002, Merrimack Station has conducted trials and test burns of more than a dozen different coal blends in an attempt to find lower sulfur, lower cost compliance coal blends that are operationally acceptable and consistently available for long-term use at Merrimack Station. A list of the coal blends tested since 2002 is enclosed. (See Item 4, above.)

Conclusion

I appreciate DES ARD's cooperation and willingness to work with PSNH to meet all of the requirements of RSA 125-O. As you know, the issues associated with the implementation of HB 1673 requirements are critical given the impact on future compliance with state and federal mercury reduction requirements, as well as the continued reliable operation of Merrimack Station. The December 12, 2006 meeting was an efficient way to respond to Pam Monroe's request for additional information and reach agreement on the issues associated with stack testing, fuel sampling, and coals traditionally used. Consistent with the discussions and mutual agreements between DES ARD and PSNH during the December 12, 2006 meeting, PSNH is moving forward with its Baseline Testing Plan as summarized above.

If you would like to discuss PSNH's Baseline Testing Plan or the enclosed documentation, please contact me, at 634-2851, or Laurel Brown, Senior Environmental Analyst, at 634-2331.

Sincerely,

William H. Smagula, P.E.
Director – PSNH Generation

Enclosure